

Claims

What is claimed is:

- 5 1. A method of receiving a packetized program stream from a satellite source and distributing the packetized program stream through a data network, comprising the steps of:
 - receiving a plurality of packetized program streams from the satellite source, each packetized program stream having associated therewith program identification information;
 - 10 receiving a request for a particular packetized program stream, the request including a multicast address;
 - determining program identification information and satellite identification information associated with the particular packetized program stream using a predetermined algorithm and the multicast address;
 - 15 tuning to a selected satellite and acquiring the particular packetized program stream using the determined satellite identification information and the program identification information; and
 - transmitting, on the data network, the particular packetized program stream in accordance with a transport format associated with the data network using the multicast address.
- 20 2. The method according to claim 1, wherein the data network comprises an Ethernet based network, and the transmitting step comprises encapsulating the particular packetized program stream according to the Internet Protocol transport format.
- 25 3. The method according to claim 2, wherein the determining step comprises determining a program ID (PID), satellite number, and transponder number in response to the multicast address.
- 30 4. The method according to claim 3, wherein the determining step comprises determining the program ID (PID), satellite number, and transponder number from predetermined bit positions in the multicast address.

5. The method according to claim 4, wherein the program ID (PID) is disposed in bits 0-12, the satellite number is disposed in bits 13-15, and the transponder number is disposed in bits 18-22 of the multicast address.

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6. A method of receiving a packetized program stream and distributing the packetized program stream through a data network, comprising the steps of:

10 receiving a plurality of packetized program streams from a signal source, each packetized program stream having associated therewith program identification information;

receiving a request for a particular packetized program stream, the request including a multicast address;

15 determining program identification information associated with the particular packetized program stream using a predetermined algorithm and the multicast address;

acquiring the particular packetized program stream using the determined program identification information; and

20 transmitting, on the data network, the particular packetized program stream in accordance with a transport format associated with the data network using the multicast address.

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7. The method according to claim 6, wherein the data network comprises an Ethernet based network, and the transmitting step comprises encapsulating the particular packetized program stream according to the Internet Protocol transport format.

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8. The method according to claim 7, wherein the determining step comprises determining a program ID (PID) number in response to the multicast address.

30 9. The method according to claim 8, wherein the determining step comprises determining the program ID from predetermined bit positions in the multicast address.

10. A method for receiving a packetized program signal in a data network,

comprising the steps of:

receiving a user request for a particular packetized program stream from a plurality of packetized program streams;

5 determining a multicast address associated with the particular packetized program stream using a predetermined algorithm and identification information associated with the particular packetized program information;

transmitting a request for the particular packetized program stream, the request including the multicast address, to a device coupled to a source of the plurality of packetized program streams;

10 acquiring, from the data network, packetized data having the particular program stream included therein and being associated with the multicast address; and

deriving the packetized program stream from the acquired packetized data.

15 11. The method according to claim 10, wherein the data network comprises an Ethernet based network, and the acquiring step comprises acquiring the particular packetized program stream that is encapsulated according to the Internet Protocol transport format.

20 12. The method according to claim 11, wherein the plurality of packetized program streams are received from a satellite signal source.

25 13. The method according to claim 12, wherein the determining step comprises determining the multicast address in response to a program ID (PID), satellite number, and transponder number associated with the particular packetized program stream.

30 14. The method according to claim 13, wherein the determining step comprises mapping the program ID (PID), satellite number, and transponder number into predetermined bit positions in the multicast address.

15. A method of receiving a packetized program stream from a signal source and distributing the packetized program stream through a data network, comprising the steps of:

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- a) receiving, in a first device coupled to the data network, a plurality of packetized program streams from the signal source;
- b) receiving, in a second device coupled to the data network, a user input selecting a particular packetized program stream from the plurality of packetized program streams;
- c) determining, in the second device, a multicast address associated with the particular packetized program stream using a predetermined algorithm, and transmitting a request for the particular packetized program stream including the determined multicast address to the first device;
- d) determining, in the first device, identification information associated with the particular packetized program stream in response to the request using the predetermined algorithm and the multicast address;
- e) acquiring, in the first device, the particular packetized program stream in response to the identification information, and transmitting the particular packetized program stream through the data network in accordance with a transport format of the data network using the multicast address; and
- f) receiving, in the second device, the particular packetized program stream in response to packetized data transmitted with the multicast address.

20 16. The method according to claim 15, wherein the data network comprises an Ethernet based network, and step e) comprises encapsulating the particular packetized program stream according to the Internet Protocol transport format.

25 17. The method according to claim 16, wherein step c) comprises determining the multicast address in response to a program ID (PID), satellite number, and transponder number associated with the particular packetized program stream.

30 18. The method according to claim 17, wherein step c) comprises mapping the program ID (PID), satellite number, and transponder number associated with the particular packetized program stream into predetermined bit positions in the multicast address.

19. The method according to claim 18, wherein step d) comprises determining the program ID (PID), satellite number, and transponder number from predetermined bit

positions in the multicast address.